ADHD

Dividing and Drugging

This paper is one section of a full critique of ADHD drugging in the UK.

For the full paper please visit:

http://thenewobserver.co.uk/features/adhd/

The Multi Modal study

The study was published as “A 14-Month Randomized Clinical Trial of Treatment Strategies for Attention-Deficit/Hyperactivity Disorder” in the Archives of General Psychiatry in 1999. [1] In keeping with other commentators we will refer to this study as the MTA study.

1) Introduction

The MTA study was sponsored by the US NIMH (National Institute of Mental Health). The NIMH is a US government agency concerned with research into mental illness. The MTA study was one of the largest and longest running ADHD trials. It makes a significant contribution to the ADHD narrative. When the NICE Guideline authors looked for studies they could accept to review for comparing drugging with behavioural interventions the MTA study had more subjects than all the others combined. (Section 4) iv)).

The MTA study gave different “treatments” to 4 groups of “ADHD children” and compared the results. The comparison was based on a statistical treatment of questionnaires completed, in the main, by teachers and parents. Classroom observers completed questionnaires for some measures and the “ADHD children” for one and their peers for another. The questionnaires were used to measure “ADHD symptoms” and some other factors such as “social skills” and anxiety/depression. On some scores “medication” outperformed the behavioural programme in the study.

This is summarised:

> For most ADHD symptoms, children in the combined treatment and medication management groups showed significantly greater improvement than those given intensive behavioural treatment and community care. [1]

Parents and teachers agreed that “medication” was more effective than the behavioural approach for the “symptom” of inattention. Parents but not, apparently, teachers agreed that “medication” was better than the behavioural programme at reducing the “ADHD symptom” of hyperactivity. The neutral classroom observers did not report a “benefit” for the “medication” regime over the behavioural approach in terms of classroom behaviour. The young subjects themselves did not report a benefit for “medication” on the score they were consulted on. There was some evidence then that methylphenidate can potentially be “superior” to a behavioural programme at improving attentiveness. This is in fact not news. Stimulant drugs (methylphenidate is a stimulant) are effective at improving attentiveness. At high dose, as in the MTA study, they may do this better than a behavioural programme. Though it is significant that this score was not supported by the neutral classroom observers. The MTA study was conducted over 14 months. A follow-up study conducted at 36 months failed to confirm the initial results. (Sub-section vii) below). The MTA study does not consider the merits of drugging young people aged 8 (the average age of subjects in the study) to achieve improved attentiveness.

The MTA study is, from a scientific point of view, deeply flawed. The difficulties include: a) the imposition of a medical vocabulary of “symptoms”, “treatment”, “medication” etc. on operations which relate to “children’s” behaviour, rather than any medical condition, b) the use of interested parties such as parents and teachers to record the claimed “reductions in symptoms”, c) with one exception, the exclusion from the scoring of the young people's views, d) results which failed to support the drugging position were not given any weight in the results; only the positive results were reported, e) the failure of the blinded and neutral classroom observes to report a pro drugging result was not given the consideration it

should have been, f) the fact that stimulant drugs were only tested on “ADHD” young people, disguising the fact that they have the same effect of improving attentiveness for all young people, and g) the usual reifying language of “ADHD children” is used. All the subjects are assumed to “have something”.

The MTA study clearly aimed at generating a result which can be used to add to the ADHD narrative a claim that “medication is better than behavioural interventions at treating ADHD”. On this point it just managed to scrape home. For the “symptom” of inattention two sets of raters, parents and teachers, produced a result in favour of “medication”. This result though was for the specific MTA “medication” regime and the specific MTA behavioural intervention programme. The former is unlike a typical out-patient “medication” regime. (As we shall see, it used a much higher than normal dose). The latter may be different from any other behavioural intervention. For this reason it is not valid science to make claims based on the results of the MTA treatment groups about “medication being superior to behavioural treatments” *in general.* While more cautious commentators (such as the NICE Guideline authors) are on the whole careful to acknowledge that the MTA treatment groups were specific to the study, other narrative builders are less careful. Thus we move from the specificity of the MTA study to more general claims about it having been “shown” that “medication is more effective than behaviour therapy alone at treating ADHD symptoms”. (See Section 5) ii)). Because of the specificity of the “treatment” regimes to the MTA study a finding that the MTA “medication” group outperformed the MTA behavioural group is without clinical application. But it appears that the aim of the study was to create the basis for narrative statements about “medication being superior to behavioural treatment” in *general*. The MTA study *only* works if it is misused.

That stimulant drugs are effective at improving attentiveness, at least for short-term use, is incontestable. This is not news. This is exactly what they do. The reality of ADHD drugging is that young people who are more inattentive than the average for their class are being given stimulant drugs to reduce problem behaviours associated with variable attentiveness. Statements about the “superiority of medication management over behavioural treatment for ADHD symptoms” obscure this reality by presenting “symptoms” and the “treatment” as apparently self-evident “medical” facts. However; this is linguistic trickery, not empirical science. Describing a behaviour which belongs to a diagnostic category of psychiatry as a symptom and describing the somewhat haphazard control of that behaviour by drugs as a “treatment” involves re-purposing both the word “symptom” and the word “treatment”.

The MTA study compared “medication” with a particular behavioural intervention. Other approaches which exist to care for young people who may be identified as having below average attentiveness for their age group were not explored.

ii) The construction and findings of the study

The MTA study compared 4 different “treatment” approaches “for ADHD”. These were:

- A behaviour modification programme.
- A “medication” programme (stimulant drugging).
- Community care. This meant the usual treatment as an out-patient. Typically comprising a mixture of some stimulant drugging and some behaviour training.
- Combined treatment. The MTA stimulant drug programme and the MTA behaviour modification programme combined.

The “medication management” system which was used in both the medication only programme and the combined programme was, in the words of the MTA study authors, “carefully-crafted”. First, methylphenidate, (Ritalin), was tried. If this failed to produce the desired change in behaviour

dextroamphetamine or other drugs were used. For the initial methylphenidate titration a range of doses were tried and the “best” one for each young person was chosen by a “team of experienced clinicians”. “Best dose” meant the one that produced the best response on the teacher and parent measurement scales that formed the main assessment in the study. Thus doses were fine-tuned to get the best possible results for drugging. There were monthly visits at which the doses for all drugs could be further fine-tuned if necessary.

The behavioural intervention programme was one specially put together for the MTA study. It included elements of parent training, teacher training and a summer camp for the students.

The “ADHD” young people (average age 8.5) were divided into the above four treatment groups. Over a period of 14 months the groups were measured against six criteria:

(1) ADHD symptoms were measured with inattention and hyperactivity-impulsivity sub-scales of parent- teacher-completed SNAP [2] ratings. (SNAP is an acronym denoting the names of the instrument's developers. One of the authors of the SNAP system is Dr James Swanson who was also one of the MTA study authors. The current version of SNAP, SNAP-IV is based on the DMS-IV definition of ADHD). SNAP is a check-list of behaviours. “Measured” means that a parent or teacher reports on their child or student's behaviour against a check-list of possible behaviours, rating them from not at all to very much. Behaviours “measured” include items such as “often is forgetful in daily activities”, “often fidgets with hands or squirms in seat”, “often argues with adults”, “often acts 'smart'” and “sometimes for at least a week has inflated self-esteem or grandiosity”. This is not “measured” in a scientific sense. Nor is “acting smart” or not sitting still in class a symptom of anything. This system could be called the symptom reduction scoring system.

Classroom observers who were blind to what “treatment” group a student was in also monitored for ADHD “symptoms” and “aggression” in class.

(2) oppositional/aggressive symptoms were measured with a parent and teacher SNAP oppositional-defiant disorder sub-scale;

(3) social skills were measured with a parent- and teacher-completed sub-scale from the Social Skills Rating System (SSRS)

(4) internalizing symptoms (anxiety and depression) were measured with an internalizing sub-scale from parent- and teacher-completed SSRS and children's self-ratings on the Multidimensional Anxiety Scale for Children (MASC)

(5) parent-child relations were measured with 2 composite scales from a parent-child relationship questionnaire

(6) academic achievement was measured with 3 sub-scales from the Wechsler Individual Achievement Test (reading, maths, and spelling)

[1]

In reporting their results the study the MTA authors stated:

a) The ADHD “symptom” of inattention was reduced more in the “medication” group than in the behaviour “treatment” group according to both parents' and teachers' ratings. For the “symptom” of hyperactivity “medication” was more effective (at reducing the “symptom”) than the behaviour treatment according to teacher's ratings. However there is confusion here. The text clearly states that hyperactivity was reduced according to teacher’s ratings. But the table in which the data is

presented clearly indicates that it was parents and not teachers who rated “medication” better than the behavioural intervention for the “symptom” of hyperactivity. It seems more likely that the table is correct since this is where the actual figures are presented.

b) The combined programmed also “outperformed” the behavioural programme for the ADHD “symptom” of inattentiveness on both parent and teacher ratings. In addition it also “outperformed” the behavioural intervention on parents' oppositional defiant behaviours scoring, internalizing symptoms (anxiety and depression) and Weschler Achievement Test reading achievement score. Both the text and the tabular data report that it was parents and not teachers who found the combined programme “superior” to the behavioural intervention only programme for the “symptom” of hyperactivity. [1]

c) That the combined programme scored better than the community care programme on 5 out of the 6 criteria.

The main claim then in this study is that the “medication” programme outperformed the behavioural programme at reducing “ADHD symptoms'. However, for the “symptom” of hyperactivity only one of the main measurement groups supported the finding. The report is confused about whether this was parents or teachers. Are they trying to confuse the reader? Are they trying to disguise the awkward fact that this result was only supported by one out of three measuring groups? It was not supported by the neutral classroom observers either.

The authors do not highlight the finding but the data shows that the neutral classroom observers did not report that “medication” was “better” than the behavioural programme for ADHD symptoms in the classroom. This is significant because this was a group of observers who were blind to what “treatment” any one young person was on. In addition they had no interest in the outcome and thus were more likely to give reliable results. This finding should be significant, for a study claiming to be following the standards of normal randomised clinical trials. However the unfortunate failure of the neutral group of raters to support the desired outcome is silently dropped from the summary of the results.

A secondary claim was that the combined programme outperformed the behavioural only programme not just on ADHD symptoms but also on parent measured oppositional defiant scores, parent measured anxiety/depression scoring, and reading. For anxiety/depression symptoms the young people themselves do not appear to have rated that the combined programme improved anxiety/depression better than a behaviour programme. The better score for “reading” was not matched on the other two academic criteria, spelling and maths. (According to Breggin the claim for reading can be contested on statistical grounds. [3]) And, again, it does not appear to be the case that teachers rated the combined programme “better” than the behavioural programme for hyperactivity, at least according to Table 5.

The results then were patchy. Multiple groups of raters were used. But there was not a single measure on which all groups of raters agreed that “medication” achieved “superior” results to the behaviour programme. By reporting only the positive results and dropping from their summary the rating groups which failed to obtain a result the MTA authors are creating a misleading picture of the results of their study. If you ask 10 people to compare two products, one expresses a preference for the first product, but the other nine express no preference either way would it be correct to describe this as a robust finding in favour of the first product?

The MTA study *assumes* that reductions in symptoms demonstrated using the symptom

scoring method are a good. In a sense this is valid. The “symptoms” are the signs “of ADHD” from DSM-IV. So reducing them means that someone's ADHD has been “reduced”. Nonetheless since “ADHD” is not a biological illness from which anyone suffers it remains to be explained how reducing “symptoms” is of benefit to the young person. The MTA study does not attempt such an explanation. This is characteristic of the ADHD narrative as a whole. The question of the value of obtaining a “reduction in symptoms” - by drugging - is obfuscated by precisely this false language of “symptoms”, “treatment” and so on.

iii) This is not science

In the MTA study the measurements were in the main carried out by parents and teachers. In the case of “ADHD symptoms” this was done using a questionnaire designed by one of the MTA study authors who is a noted pro-drugging enthusiast. [4] With the exception of the academic tests the base “data” in the MTA study is data which depends on interpretations of human behaviour by humans. This is not empirical, physical, data such as measures of heartbeat or temperature. It does not have the same degree of reliability as such data. For example; “inattentiveness” is open to interpretation. Can the MTA study authors be sure that it was not the case that the kind of behaviour produced by drugs was seen as more “attentive” by teachers whereas the kind of behaviour which resulted from a behavioural training course was not seen as more “attentive”? Does a student who sits still get marked up for attentiveness, though, in reality, they may be in a drug stupor? Whereas one who blurts out questions may get marked down even though he is attending to and trying to engage with the lesson? What was actually being measured? Ultimately it may come down to the kind of behaviour sought out by teachers. Can the MTA study authors be sure that when parents reported on “inattention” they meant the same thing as teachers? No. The MTA study is attempting to quantify base data which is subject to significant degrees of unconscious bias before it gets to the stage where it is quantified. For this reason alone the figures, graphs and tables produced in the report do not offer even remotely the kind of certainty that their mathematical formulation suggests they possess.

Almost all the “measurements” were carried out by parents and teachers. It was not just that the measurements were subjective, interpretations of human behaviour by humans. It is further the case that the people doing the measuring were highly interested parties. Parents and teachers play an active role in the “diagnosis” of ADHD. They are part of the story. There were two exceptions to this reliance on interested parties as raters. Classroom observers, who were blind to which “treatment” any young person was on, “measured” classroom behaviour. The young people themselves were asked to report on their anxiety/depression levels. Tellingly, in both these cases the result of “superiority” for the “medication” based programmes over the MTA behavioural programme was not maintained. These facts are not highlighted in the results section of the MTA report. From a clinical perspective this is the wrong way around. From a clinical perspective the most important findings would be those of a) the subjects themselves and b) any neutral raters. The results of untrained parties with an emotional investment in the outcome would be handled with caution. That they are prioritised here tells us something about the nature of “ADHD”.

The young people in the study were assigned randomly to one of the four treatment groups. “Medication” was a treatment option and since all the participating parents had to agree in advance to random assignment it follows that *all* the parents involved were potentially favourable enough to medication to accept it as a possibility. When it came to it

17 refused or, more likely their parents refused on their behalf, to be drugged. Possibly only those who fully accepted the “benefits” of “medication” continued into the study. At any event the people doing the rating simplicity accepted that “medication” as a safe treatment. This would have introduced bias into the study.

31% of all study participants were on “medication” prior to the study (Table 3). The figure for those who were on a formal behavioural programme is not given in this table. This high percentage already on “medication” also creates the possibility of bias in the results. Interestingly, the drop-out rate was higher in the “medication” group than in the behaviour group, one of several facts present in the MTA study which is not favourable to the pro-drugging conclusion reached and which does not find its way into the summary of results.

The claims for the “superiority” of “medication” for ADHD “core symptoms” relate to the two ADHD “symptoms” of inattention and hyperactivity. But in reality these are not “symptoms” at all. A “symptom” in medicine is a change in the body which is noticed by the patient and which is biologically associated with a disease. An example of a symptom is a running nose as a symptom of having a cold. The virus and the body's response to it results in the medical symptom. Usually a medical symptom is something that to a greater or lesser degree the patient suffers from. But “ADHD symptoms” are something else altogether. ADHD “symptoms” are in fact a range of behaviours. DSM-IV refers to “signs” not “symptoms” and explicitly defines ADHD in terms of “disruptive” behaviours which are “inappropriate for developmental level” (See Appendix i)). “Symptoms” are a sort of secondary reification based on DSM-IV.

By using the word “symptom” the MTA study authors are engaged in a conjuring act. The public understand that a “symptom” points to a disease which it is a symptom of. Thus if they are informed that “symptoms have been reduced” they may be led to believe that that is a desirable result. But this is a false use of language, not a medical reality. ADHD “symptoms” are not “symptoms” at all. They cannot be, because there is no biological disease which they can be symptoms of. Recall that the NICE ADHD Guideline authors concede: “The diagnosis of ADHD does not imply a medical or neurological cause”. [5] What is being reduced is “disruptive” behaviours.

There is a strange anomaly in the MTA study. If only a behavioural programme was being used the authors could have talked freely about behaviours being modified. But once they involve “medication” it becomes necessary to talk in terms of “symptom reduction” to mask the reality that drugs are being used to modify behaviour. But now they end up with the absurdity that the behavioural intervention too has to be described as “reducing symptoms”. Of course behavioural interventions do not “reduce symptoms”. They modify behaviour.

The MTA study also uses the words “medication” and “treatment”. Both of these words also create a false impression. The general public would understand a medical treatment to be a treatment *of* something. One is being treated for measles, flu, jaundice, a broken leg. But when “ADHD children” are treated they do not in fact have anything which is being treated. “The diagnosis of ADHD does not imply a medical or neurological cause”. [5] You cannot “treat” something which doesn't exist. “Medication” is the corollary of “treatment”. The Latin root of the word “medicine”, which is shared with “medic”, is from a word meaning to heal. The common understanding associates a medicine with a therapeutic or healing effect. Drugs given to young people with an ADHD label however do not have a healing effect. At best they affect brain chemistry to increase the amounts of a chemical substance associated with improved attention. This is not equivalent, for example, to an antibiotic

which reduces the prevalence of a harmful bacterium in the body. In the end "ADHD" is a classification category of psychiatry relating to a problem behaviour of young people. The use of medical terminology masks that disruptive behaviour is being reduced with drugs.

The people who developed the MTA study (and others of this kind) do not as a rule consider how being part of a study effects the behaviour of those studied. The view of "children" involved is essentially the same as if they were laboratory rats whose responses would not be altered by being part of a study. Studies involving rats do not need to consider what effect being observed might have on the rat. A rat probably behaves much the same way whether or not it is being observed by a human with a clip-board. But this, a lack of awareness of being monitored, is not the same for people. People will be aware that they are being monitored and this may well effect their behaviour. In the MTA study young people ("children") are given drugs or involved with their parents in a behavioural programme, and then observed by people holding (as it were, or maybe even literally) clip-boards. This might be their class-teacher or their Mum or Dad. Their behaviour is likely to be effected by the knowledge that they are being observed by another human being as part of a study, especially perhaps when they have been told it is a study about "their ADHD". For this reason studies of this kind have the problematic that inferences cannot be directly drawn about the behaviour of populations in non-study contexts. The exact effect of study participation cannot be determined and controlled for. The "clinical" posture which disregards this factor is both heartless and bad science at the same time. Furthermore, it discourages, possibly even excludes, the kind of warm relations between parent and child that might be all that is needed to "solve" the problem of the young person's behaviour. The MTA study embodies a certain specific kind of power relations. One the one hand the "children" are objectified. They "have" something. They are drugged and studied. Not consulted. On the other hand certain groups of people are enjoined to take up a special kind of subjectivity. The subjectivity that comes from observing and measuring other people. These acts of "measurement" produce certain forms of "knowledge". In the MTA study the parents and teachers are being groomed to adopt a "clinical" posture towards their own children and their students. The structure of the MTA study funnels the problem into the kinds of theoretical frameworks which psychiatrists and psychologists use and thus towards the professional services which they offer and benefit from. Other solutions are excluded.

The MTA study authors reported that "medication" was superior to their behavioural programme "according to 2 different data sources". They mean parents and teachers. Thus they bury the fact that the clinically more important group of raters, the neutral and blinded classroom observers did not report such a result. (They also try to bury it seems the fact that it was just parents who rated "medication" "better" than the behavioural programme for hyperactivity). How can we explain this use of interested parties to claim a result and the attendant ditching of the results of the neutral and blinded raters? In the world of ADHD an "ADHD" "diagnosis" does not come about because a young person has complained of feeling unwell. When a young person is "diagnosed" "with" "ADHD" and drugged it is his parents who have taken him to the psychiatrist or paediatrician and asked that something be done. (As we shall see there is anecdotal evidence that schools are putting pressure on parents to do this in some cases). The idea of ADHD drugging is to reduce the "disruptive" behaviours which are the "signs" "of ADHD". It is in this light that we can understand the reliance of the MTA study, and most other pro drugging studies, on parents and teachers as raters. The test of ADHD drugging is whether it works for parents and teachers. There is no clinical problem to solve. The reliance on interested parties, in fact the end customers for the product, confirms that we are in the realm of a customer satisfaction survey.

iv) It's a setup

The current "wisdom" in the ADHD world is that:

> Although no cure exists for the condition, symptoms can be reduced by a combination of medication and behaviour therapy. [6]

These two “treatments” are those that are delivered by clinical psychologists and psychiatrists. That ADHD cannot be cured is clearly good news for any company or individual who makes money out of treating it. In fact the best cure for ADHD would be not getting “diagnosed” in the first place. The MTA study feeds into and supports this approach of “treating” ADHD with both “medication” and behavioural interventions. These were the only two approaches tried in the MTA study. Other approaches which would manage the problem of disruptive young people, without making it a “clinical” problem and “treating” them are not envisaged. Before the MTA study even starts the problem has been framed in a certain way. A way which is of potential benefit to certain professional interest groups.

The particular behavioural programme adopted by the MTA study was based in part on the work of an R. A. Barkley, author of *Defiant Children: A Clinician's Manual for Parent Training*. [7] One of Barkley's methods is based on commands and punishments. The method involves following up a command with a threat of punishment. This is how the NICE Guideline authors describe this approach:

> From the six included trials, there was one comparison involving a teacher-led intervention named ‘giving effective commands’ (Barkley, 1997), which consists of the teacher giving the child a command once and, if necessary, proceeding to a warning where the child is informed of the consequences of not carrying out the command; in cases where the child does not comply, the threat is carried out. [8]

The reader will note the emphasis on commands, compliance and “threats” towards “the child”. It is possible that had a different and more positive, caring, behavioural programme been used in the MTA study it would have “outperformed” the drugging regime for attentiveness. However, in practice there is no doubt that stimulant drugs are powerful agents for improving attentiveness at least in the short-term. Stimulant drugs might indeed “beat” any behavioural programme in the short-term. Nonetheless, in terms of the two-horse race competition set up by the MTA study authors it remains a theoretical possibility that had a different horse represented the behavioural method then a different result could have been obtained for attentiveness.

The “medication” regime in the MTA study was, in the authors own words, “carefully-crafted”. Each subject was individually titrated with methylphenidate to achieve the “best” possible “result”:

> Cross-site teams of experienced clinicians blindly reviewed graphs portraying parent and teacher ratings of responses to each of the 4 doses and by consensus selected each child's best dose. [1]

The “best” result was the one that produced the best scores on the raters scales. Everything possible was done to give the “medication” horse the best possible chance to shine. In subjects who did not respond to methylphenidate dexamphetamine or other drugs were used instead. (At the end of the study only a few subjects had been switched to drugs other than methylphenidate or dexamphetamine). Monthly medication visits monitored the responses and doses were continually adjusted for best “results”. Reductions in dose were only allowed to reduce side-effects.

Attendance at the behavioural programme in the MTA study was patchy. For example attendance at the parental component was just 77.8%. [1] The behavioural programme tapered off before the end of the study. In contrast, the “medication” regime appears to have been run at full strength with teams of clinicians monitoring and changing the “doses” throughout the study. Every possible advantage seems to have been given to the “medication” “treatment”. At any event this just emphasises how it is not possible to compare a “medication” regime with a behavioural intervention in a clinical sense. Decisions about the level of “dosing”, the type and length of the behavioural intervention, and so on, are all arbitrary. The MTA study never could have been a

serious piece of clinical research.

The MTA subjects on the “medication” only programme who were receiving methylphenidate were being dosed with 37.7 mg daily. For those on the community care programme, that is the normal outpatient circumstance, the average daily dose was 22.6 mg, very significantly less. MTA subjects were “dosed” 3 times a day. Community care subjects receiving drugs were “dosed” on average 2.3 times a day. The “medication” regime in the MTA study was *nothing like* the typical experience of “medication” in normal outpatient settings.

The MTA study compared one specific behavioural programme with a very highly engineered and optimised regime of high-dose stimulant drugging completely atypical of usual out-patient experience. The MTA study did not compare current typical “treatments” but an artificial set produced just for the MTA study. The MTA study then *cannot* be used to justify “medication” in general over behaviour treatments in general. Given that the study was designed so as to be able to make just such a claim there is only one unavoidable conclusion. The primary purpose of the MTA study was to provide the raw materials for propaganda. It was designed to enable people to say *in general*:

> These drugs have been shown to be more effective at treating ADHD symptoms than behavioural therapy alone... [9]

Even though such a claim cannot be made on the basis of the MTA study *whatever its results.*

The above quote is from a paper by a Wellcome Trust ADHD researcher. We will discuss this paper in Section 5) ii). Here it is cited to show that the MTA study is used in the ADHD narrative to generate propaganda.

The MTA study only recruited “children with ADHD” as participants in the study. However; the fact is that stimulant drugs improve attentiveness and concentration in *everyone*. This is why, for example, US fighter pilots use them. [10] Had the same tests been carried out on a group of young people without an ADHD label, or a group where no attention was paid to any psychiatric labels, it is likely that a similar result would have been obtained. Stimulants are good at improving attentiveness; possibly better than a behavioural programme, at least in the short-term. This is all that the MTA study has shown. (Though the lack of corroboration from the neutral classroom observes must call even this result into question). The claims about stimulant “medication” being a “more effective” “treatment” “for ADHD” than a behavioural programme depend entirely on the fact that the study only studied “ADHD children”. It is the way the study is set up (ADHD children v. normals), and not empirical science, which generates the narrative about “better treatment”.

<u>v) Stimulant drugs may improve concentration but should they be be given to “improve” behaviour?</u>

Parents, but not teachers, rated the “medication” programme better than the behavioural programme for the “symptom” of hyperactivity. This is according to Table 5. [1] As we have seen, however, the text says it was teachers, not parents. This is an inexplicable confusion in the paper. The tabular data perhaps provides the more reliable report and we assume this to be correct.

Excessive use of stimulant drugs leads to a state of drug exhaustion. Breggin refers to the evening crash in his summary of the harmful effects of stimulant drugs. [11] The UK government advice to young people about the dangers of amphetamines explains that:

> The high is generally followed by a long slow comedown, making you feel really irritable and depressed. [12]

The “come down” is a well-known effect of stimulants and amphetamines. The subjects (8 year olds) in the MTA study had been “dosed” at breakfast, lunchtime and then again in the afternoon. By the evening they were probably experiencing the inevitable “evening crash” effect. Their parents duly marked them down as “less hyperactive”. But this cannot be described as a “benefit” resulting from a “treatment”. Breggin points out that the use of parents rather than trained clinicians as raters is likely to increase the chances that negative drug effects may be misinterpreted. [3]

The most consistent result the MTA study can produce is that both parents and teachers rated (high dose) “medication” better than the MTA behavioural programme for inattentiveness on the symptom reduction scoring system. If we ignore the fact that this was not corroborated by the neutral classroom observers we are left with a claim that high dose “medication” was superior to the behavioural programme at improving attentiveness over a 14 month period. But what the MTA study does not do is explain why it might be a good idea to drug young people so as to make them slightly more attentive than they would be otherwise. The MTA study, like the ADHD narrative as a whole, avoids discussing this actual value question. Results such as “superior in benefiting ADHD symptoms”, “marked reductions in symptoms over time” and “offered greater benefits” seem to be intended to appear as self-evident goods. But ADHD “symptoms” are not medical symptoms. Young people do not suffer from them as they might say, from the symptoms of measles (fever, dry cough etc.). In the MTA study the “symptoms” which have been reduced are disruptive behaviours defined by psychiatry. Precisely because they are not medical symptoms there is no self-evident good to be achieved by reducing them. Rather than explain the value of reducing disruptive behaviours with drugs, psychiatry tries to mask the reality of what it is doing by adopting a pseudo-clinical language of “marked reductions in symptoms over time” etc. However; nothing in the MTA study establishes any kind of a medical reason for the practice of using powerful and toxic drugs to keep young people glued to their seats when remaining in seat is expected.

Nor is there any discussion in the MTA study about the fact that one “treatment” is accompanied with side-effects and the other has none.

vi) Side-effects in the MTA study

Side-effects of “medication” were monitored for those on medication. The MTA study reports:

35% no side-effects
49% mild side-effects
11% moderate side-effects
3% severe side effects

[1] (Rounded to whole numbers).

When evaluating medical treatments accepted medical practice is to weigh up the benefit accrued to the patient against any additional suffering caused. For example this is how the UK's Medical and Healthcare products Regulatory Agency (MHRA) explains it:

> Do the advantages outweigh the dis-advantages of taking the medicine?
>
> Does the medicine do the most good for the least harm for most people who will be taking it?
>
> Are the side effects acceptable?
>
> [13]

Medical science as articulated by the MHRA above demands that the final recommendation takes account both of “advantages” and disadvantages of a treatment. The fact is that behavioural interventions do not cause *any* side-effects. Young people on behavioural programmes do not experience stomach aches or psychosis. They do not have trouble sleeping. They do not experience a slowing down of normal growth. (See Section 3) v) for a summary of the harms done by ADHD drugs). There are no risks (even very slight ones at the margins of statistical significance) of suffering a fatal cardiac event as the result of attending a behavioural programme. But behavioural programmes still “reduce ADHD symptoms”.

The MTA authors acknowledge the “side-effects” associated with drugging but nowhere is there any attempt to draw up a cost-benefit matrix which would measure the advantages of “medication” minus the harms it does against the advantages of behavioural training minus the harm it does (none, medically). Such a calculation would inevitably lead to a recommendation for behavioural programmes rather than “medication” to “treat ADHD”. This is probably why it is not done.

Side-effects reporting in the MTA study was done by parents. The young people, who were on the drugs and who would have experienced the “side-effects” do not appear to have been consulted unless their parents consulted them. Some parents may not have bothered. Pro-medication parents can be blind to the “side-effects” experienced by their children. (Parents who might be especially alive to these side-effects will have excluded themselves from this study). Sometimes young people will not tell their parents about, for example, night-time hallucinations. They may not have the words to tell. The young people are aware that their parents have put them on drugs. This may make it difficult for them to tell their parents of negative consequences. The young people may not realise or be able to clearly formulate that their discomfort is a result of the drug. For a range of reasons young people may not to tell their parents about side-effects. Side-effects will therefore be under-reported in the MTA study.

The MTA study authors, predictably, claimed that the side-effects may have been over-reported:

> These figures may overestimate side effects, because 6 of 11 reported severe side effects (depression, worrying, or irritability) could have been due to nonmedication factors. [1]

The MTA study did not use an “untreated” control group. They are free to speculate that the side-effects were not due to methylphenidate. But it is just speculation. In fact, being irritable and depressed are well-known “side-effects” of stimulant drugs. See for example UK government advice to young people about amphetamines. [12] Methylphenidate is not an amphetamine but is a stimulant and shares a similar effects profile. [14] See also Peter Breggin's summary of the “side-effects” of methylphenidate and other ADHD drugs. [15]

The side-effects rating system used in the MTA study was the Pittsburgh Side Effects Rating Scale [16]. On this scale mild means the side-effect is present. Moderate or severe means that “impairment of functioning or social embarrassment” was caused. 14% of the young people being “medicated” on the MTA study therefore became impaired as a result of their “treatment”. 63% experienced at least one of the items in the ratings system with or without impairment. The Pittsburg Rating Scale includes these points:

- Tics
- Buccal-lingual movements (jaw-clenching for example)
- Picking at skin
- Worried/Anxious
- Dull, tired, listless
- Headaches
- Stomach-aches
- Crabby, irritable
- Tearful, sad, depressed
- Socially withdrawn
- Hallucinations
- Loss of appetite
- Trouble sleeping

Most of these “side-effects” appear non-trivial. Even if not to the extent of “impairment of functioning” is it still acceptable to render an eight year old “tearful, sad and depressed”, “worried/anxious”, insomniac or hallucinatory in order to gain an improvement in behaviour only somewhat better than one which could have been obtained on a behavioural intervention programme? (And, on some measures, not better at all).

Despite the fact that 63% of the young people in their study (average age 8) experienced side-effects the MTA study authors claimed that this was not a problem:

> In contrast to frequently expressed concerns, children given combined treatment and medication management tolerated medication well, including a third dose given in the afternoon. [1]

In 2009 the European Medicines Agency (EMA) published a review of all preparations of methylphenidate. [17] The EMA acknowledge that reported adverse events for methylphenidate include:

> Most frequently reported psychiatric adverse events of interest from spontaneous reports were abnormal behaviour, abnormal thinking, anger, hostility, aggression,

> agitation, tic, irritability, anxiety, crying, depression, somnolence, aggravated ADHD, psychomotor hyperactivity, emotional disorder, anger, nervousness, psychotic disorder, mood swings, morbid thoughts, obsessive-compulsive disorder, personality change/disorder, restlessness, confusional state, hallucinations, lethargy, paranoia and suicidality. [18]

Adverse events are those that are reported by clinicians observing the actual result of giving a drug to their patients. The side-effects listed in the MTA study are well-known effects of taking methylphenidate. Beyond documenting them the MTA authors don't seem to think they matter very much. But if a young person presented to a doctor as suffering from stomach-aches, hallucinations and insomnia *that* would normally be regarded as medical problem. While fixing "disruptive" behaviour, which is not a medical issue, methylphenidate causes health problems in many young people who take it.

vii) Only in the short-term

The MTA study showed a superior result (symptom reduction system) for its "medication" programme over its behavioural programme according to some but not all of its rating groups. The original MTA study lasted 14 months. Some of the researchers involved in the original study continued to work with the same subjects and the same methods. Their results were published as the "3-Year Follow-up of the NIMH MTA Study". This is Jensen *at al*. 2007. [19] This study found that:

> At 3 years, 485 of the original 579 subjects (83.8%) participated in the follow-up, now at ages 10 to 13 years, (mean 11.9 years). In contrast to the significant advantage of MedMgt+Comb over Beh+CC for ADHD symptoms at 14 and 24 months, *treatment groups did not differ significantly on any measure at 36 months*. [19] *Emphasis added.*

Dr William Pelham was one of the original MTA researchers. He was also involved in the follow-up study programme. He told the press:

> The children had a substantial decrease in their rate of growth so they weren't growing as much as other kids both in terms of their height and in terms of their weight. And the second was that there were no beneficial effects – none.
>
> I think that we exaggerated the beneficial impact of medication in the first study. We had thought that children medicated longer would have better outcomes. That didn't happen to be the case. There's no indication that medication's better than nothing in the long run. [20]

This appears to be a significant finding. It comes from a direct follow-up to a major NIMH (US National Institute of Mental Health) sponsored study which was supposed to have demonstrated the "superiority" of "medication'" over behavioural interventions once and for all. Was Dr Pelham right to say that the "medicated children" did not have "better outcomes"?

Matters are slightly more complex than the convergence of scores alone would tell us. As Jensen *et al*. point out there are other possible explanations. The main one is that the original MTA treatment groups were not maintained. After the original 14 month MTA study ended participants (in practice their parents most likely) were free to choose what kind of

“treatment” they received. The original MTA “treatment” regimes were no longer available. As a result of this, at 36 months there had been some movement within the groups. Jensen *et al*. detail this:

> Medication use changed substantially over time, however. Thus, during the 24- to 36-month assessment interim, the percentage of children with high use decreased to approximately 71% for Comb and MedMgt, remained relatively steady at 62% for CC, and increased to 45% for Beh. Despite this convergence in use rates across groups by 36 months, medication use rates and total daily doses continued to differ significantly at 36 months (Table 2). [19]

Thus there was significant convergence of “treatment” across the original MTA study groups. Jensen *et al.* explain how this factor can explain the convergence of scores and the loss of the “medication advantage” from the original MTA study:

> Thus, differences in the intensity or quality of treatment (or lack of treatment) during the 14- to 24-month post study interim may have resulted in the loss of some of the 14-month difference. [19]

This is a valid explanatory comment on their own findings. However, as Jensen *et al*. 2007 acknowledge “”medication use rates and total daily doses continued to differ significantly at 36 months”. And yet the scores still converged:

> No significant differences were found among the originally assigned treatment groups on any of the variables in this table at 36 months. [19]

There was complete convergence on scores but only a drawing together of “treatments” which continued to “differ significantly at 36 months”. Some young people were still being much more heavily “medicated” than others. But still the scores converged. The inescapable conclusion is that in the longer run the “medication advantage” over a behavioural treatment does wear off, at least to some extent. This is exactly what we would intuitively expect. It is known that people develop tolerance to stimulant drugs. The drugs will thus probably be less effective in the long-term.
The MTA follow-up study calls into question whether the “medication advantage” found, on some measures, in the original MTA study would have been sustained at 36 months even if the original “treatment” regimes had been maintained. The result of the MTA follow-up study was a total disaster for the ADHD community. The US National Institute of Mental Health which sponsored the original MTA study now spins these results like this:

> The study also showed that these benefits last for as long as 14 months. [21]

Some of the MTA authors tried to recover the position. The main effort was a secondary evaluation of the data study, Swanson *et al*. 2007 [22]. This study re-analysed the data to show that “medication” still “reduced symptoms”, absolutely (compared to base-line), even over 36 months, for at least some young people. This was a retreat to the basic “medication reduces ADHD symptoms” position. The evidence from their own study, which should surprise no one, that the “medication advantage” wears off over time was not followed up. As with any other finding from an ADHD study which does not support the main ADHD drugging narrative, it was hastily discarded. And the effort was redirected to

finding new data to support the “scientific evidence” for ADHD drugging. We review Swanson *et al*. 2007 in Section 4) v) where we discuss how the NICE Guideline authors use it to limit the damage from Jensen *et al*. 2007.

viii) The flawed MTA study - a summary

The MTA study is not a scientific study. Its conclusions have no scientific value. The following summarises some of the problems with this study.

1. The “data” on which the comparisons between the different modes of “treatment” were based were not empirical measurements. They were subjective assessments of the behaviour of young people. Ratings criteria such: “Often is forgetful in daily activities”, “Often loses temper”, “Often is spiteful or vindictive” [2], for example, are not objective measures like, for example, measures of blood pressure or heart rate. No amount of presenting the “data” in tables and graphs and applying methods of statistical analysis can disguise the fact that the foundations are based on subjective interpretations of behaviour.

2. The people doing the measuring, providing the “data”, were people who are part of the ADHD story. People who are involved in a situation cannot be relied on to provide unbiased reports. The blinded classroom observers, the only group of measurers who might reasonably be supposed to be detached and unbiased, did not produce a score which favoured drugging over the behavioural intervention. This finding should be given significantly more weight than the results from the parents and teachers. Indeed the ratings from the parents and teachers are of no scientific value and should only have been included as ancillary data.

3. In the MTA study words like “diagnosed”, “symptom”, “treatment”, “benefit” and “improvement” are used in such a way that an uncritical audience hearing about such a study through the media may mistake these for scientific medical terms. In the MTA study as in the ADHD narrative as a whole these terms have been misappropriated. In is nonsensical to talk about “symptoms” of a diagnostic category of psychiatry which “does not imply a medical or neurological cause” [5]. In the MTA study as in the wider ADHD narrative use of clinical medical terms in connection with a practice which is neither clinical nor medical serves to disguise the real nature of what is going on.

4. The only objective result (in the sense of something which can be objectively measured) from this study is the slighter better increase in reading scores with the MTA combined regime compared with the MTA behavioural programme. The better score for reading was not matched on the other two academic criteria, spelling and maths. The reading result can, according to Breggin, be contested on statistical grounds. In any event; simply showing that giving eight year olds stimulants can slightly improve their reading scores is not, perhaps, a reason to do this.

5. Follow-up research to the MTA study, conducted by the MTA authors, Jensen *at al*. 2007 [19], showed that in the longer term (that is 36 months) the higher scores (symptom reduction system) for “medication” over behavioural interventions found in the original MTA study (14 months) were not maintained. Pro-drugging groups such as the US NIMH and the authors of the UK's official Guideline on “managing” ADHD (See Section 4) v)) are left to spin and claw their way out of this highly awkward finding.

6. All of the students in the MTA study appear to have been in school. The MTA study thus reifies (treats as if it were an absolute fact of nature when it is in fact a matter of social

policy and current practice) the prevalent system of mass schooling in the industrialised world. A condition which appears when measured against the mores of a specific social institution is not an objective condition. The MTA study, framed as it is as a “clinical” endeavour, participates in the project of excluding a social policy solution to the problems of inattentive young people in school. The way the study is constructed already excludes many of the more positive and humane solutions to the problems of inattentive young people in school which could be tried.

7. From a medical perspective a proposed treatment should be weighed up in terms of its benefits and side-effects. In the MTA study the relative advantages (“symptom reduction” claim) of “medication” over a behavioural intervention are considered but not their relative harms.

8. The voices of the young people themselves are absent from the MTA study. The young people were consulted on just one of six measures. That of anxiety/depression. On this score they did not report that “medication” was “superior” to the behavioural programme. There is no endorsement from the actual “patients” therefore for the claimed results of the MTA study. This is a reminder that “ADHD” is about adult convenience not patient well-being.

9. The study reported that parents but not teachers reported that “medication” scored better (symptom reduction system) than the behavioural intervention for hyperactivity. (Table 5). We discussed how this may well be because stimulant drugs induce a lethargic reaction as the drug effect wears off towards the end of the day. The well-known “evening crash” effect. By the evening when they were assessed by their parents they may have been suffering from drug induced exhaustion. A negative consequence of taking the drugs may have been reported as a “benefit”. Because the young people were not properly consulted (see above point 8)) such effects are not likely to be discovered.

10. Because the “treatment” regimes in the MTA study are unique to it and, at least in the case of the “medication” regime atypical of normal outpatient regimes, no results can be extrapolated from the MTA study to the wider clinical scene. The MTA study cannot provide the basis to make claims about “medication being superior to behavioural treatment” in general. This is a structural feature of the study and applies whatever results were obtained. Any claims made on the basis of the MTA study about the general picture have an element of propaganda about them.

11. The MTA study is a customer satisfaction survey. In as much as it masquerades as science that is a hoax.

ix) Ethics and the MTA Study

The authors of the MTA study claimed that their study did not include a control group (that is a group receiving no “treatment”) because that would have been “an ethically unacceptable option for an ADHD study of this length”. [1] This is despite the fact that there is no biological test “for ADHD” and no one who is “diagnosed” “with” “ADHD” has been identified as having a medical illness or condition. Any one group of “ADHD children” is essentially arbitrary. Assignment to such a group depends to a large extent on whether parents choose to have their children assigned to it. Many young people are inattentive relative to the average for their age-group and survive without ill-effects without being “treated”. It might be unethical not to treat, for example, measles, as part of a study. It is not unethical not to “treat” someone simply because they have been assigned to a “diagnostic category of psychiatry”. We can add that a behavioural

intervention cannot be described as a “treatment”. Summer camps, parenting skills classes for parents, and classroom aides improve behaviour. They don't save lives. Those on the behavioural programme were therefore, in any medical sense of the word, not being “treated” as such. The argument that it would not have been acceptable to have included an untreated control group is therefore fallacious. Had such a “no treatment” control group been included it would have been possible to assess (symptom reduction scoring system) how “medication” and an ADHD behavioural programme compared against no “treatment”. This may have produced an unwelcome result for the MTA study. However; the main reason that no control group was used was probably propaganda related. It is essential to continue to spread the message that “ADHD” requires “treatment” and including a no treatment control group would have exposed the fact that no “treatment” is a perfectly valid option. No harm results from no “treatment”.
The purpose of the MTA study was to generate pro-drugging propaganda. To do this it subjected 8 year olds to an intensive regime of head-aches, insomnia, stomach-aches, growth-loss, hallucinations, anxiety and depression. The MTA authors claim that they didn't include a no treatment control group for “ethical” reasons. The ethical problem is perhaps the reverse of that proposed by the MTA study authors.

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Section 2.4

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